



SEQUENCE LISTING

<110> SUZUKI, Toshiharu et al.

<120> MARKER PEPTIDE FOR ALZHEIMER'S DISEASE

<130> 3749-0112PUS1

<140> US 10/577,008

<141> 2006-04-25

<150> PCT/JP2004/016209

<151> 2004-11-01

<150> JP 2003/375363

<151> 2003-11-05

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<170> PatentIn Ver. 2.0

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<212> PRT

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Asn Asp Asn Thr Val Leu Leu Asp Pro Pro Leu Ile Ala Leu Asp Lys
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Asp Ala Pro Leu Arg Phe Ala Gly Glu Ile Cys Gly Phe Lys Ile His
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Gly Gln Asn Val Pro Phe Asp Ala Val Val Val Asp Lys Ser Thr Gly
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Glu Gly Val Ile Arg Ser Lys Glu Lys Leu Asp Cys Glu Leu Gln Lys
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Asp Tyr Ser Phe Thr Ile Gln Ala Tyr Asp Cys Gly Lys Gly Pro Asp
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Gly Thr Asn Val Lys Lys Ser His Lys Ala Thr Val His Ile Gln Val
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Asn Asp Val Asn Glu Tyr Ala Pro Val Phe Lys Glu Lys Ser Tyr Lys
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Ala Thr Val Ile Glu Gly Lys Gln Tyr Asp Ser Ile Leu Arg Val Glu
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 Ala Val Asp Ala Asp Cys Ser Pro Gln Phe Ser Gln Ile Cys Ser Tyr
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 Glu Ile Ile Thr Pro Asp Val Pro Phe Thr Val Asp Lys Asp Gly Tyr
 195 200 205
 Ile Lys Asn Thr Glu Lys Leu Asn Tyr Gly Lys Glu His Gln Tyr Lys
 210 215 220
 Leu Thr Val Thr Ala Tyr Asp Cys Gly Lys Lys Arg Ala Thr Glu Asp
 225 230 235 240
 Val Leu Val Lys Ile Ser Ile Lys Pro Thr Cys Thr Pro Gly Trp Gln
 245 250 255
 Gly Trp Asn Asn Arg Ile Glu Tyr Glu Pro Gly Thr Gly Ala Leu Ala
 260 265 270
 Val Phe Pro Asn Ile His Leu Glu Thr Cys Asp Glu Pro Val Ala Ser
 275 280 285
 Val Gln Ala Thr Val Glu Leu Glu Thr Ser His Ile Gly Lys Gly Cys
 290 295 300
 Asp Arg Asp Thr Tyr Ser Glu Lys Ser Leu His Arg Leu Cys Gly Ala
 305 310 315 320
 Ala Ala Gly Thr Ala Glu Leu Leu Pro Ser Pro Ser Gly Ser Leu Asn
 325 330 335
 Trp Thr Met Gly Leu Pro Thr Asp Asn Gly His Asp Ser Asp Gln Val
 340 345 350
 Phe Glu Phe Asn Gly Thr Gln Ala Val Arg Ile Pro Asp Gly Val Val
 355 360 365
 Ser Val Ser Pro Lys Glu Pro Phe Thr Ile Ser Val Trp Met Arg His
 370 375 380
 Gly Pro Phe Gly Arg Lys Lys Glu Thr Ile Leu Cys Ser Ser Asp Lys
 385 390 395 400
 Thr Asp Met Asn Arg His His Tyr Ser Leu Tyr Val His Gly Cys Arg
 405 410 415
 Leu Ile Phe Leu Phe Arg Gln Asp Pro Ser Glu Glu Lys Lys Tyr Arg
 420 425 430
 Pro Ala Glu Phe His Trp Lys Leu Asn Gln Val Cys Asp Glu Glu Trp
 435 440 445
 His His Tyr Val Leu Asn Val Glu Phe Pro Ser Val Thr Leu Tyr Val
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Asp	Gly	Thr	Ser	His	Glu	Pro	Phe	Ser	Val	Thr	Glu	Asp	Tyr	Pro	Leu	465	470	475	480
His	Pro	Ser	Lys	Ile	Glu	Thr	Gln	Leu	Val	Val	Gly	Ala	Cys	Trp	Gln	485	490	495	
Glu	Phe	Ser	Gly	Val	Glu	Asn	Asp	Asn	Glu	Thr	Glu	Pro	Val	Thr	Val	500	505	510	
Ala	Ser	Ala	Gly	Gly	Asp	Leu	His	Met	Thr	Gln	Phe	Phe	Arg	Gly	Asn	515	520	525	
Leu	Ala	Gly	Leu	Thr	Leu	Arg	Ser	Gly	Lys	Leu	Ala	Asp	Lys	Lys	Val	530	535	540	
Ile	Asp	Cys	Leu	Tyr	Thr	Cys	Lys	Glu	Gly	Leu	Asp	Leu	Gln	Val	Leu	545	550	555	560
Glu	Asp	Ser	Gly	Arg	Gly	Val	Gln	Ile	Gln	Ala	His	Pro	Ser	Gln	Leu	565	570	575	
Val	Leu	Thr	Leu	Glu	Gly	Glu	Asp	Leu	Gly	Glu	Leu	Asp	Lys	Ala	Met	580	585	590	
Gln	His	Ile	Ser	Tyr	Leu	Asn	Ser	Arg	Gln	Phe	Pro	Thr	Pro	Gly	Ile	595	600	605	
Arg	Arg	Leu	Lys	Ile	Thr	Ser	Thr	Ile	Lys	Cys	Phe	Asn	Glu	Ala	Thr	610	615	620	
Cys	Ile	Ser	Val	Pro	Pro	Val	Asp	Gly	Tyr	Val	Met	Val	Leu	Gln	Pro	625	630	635	640
Glu	Glu	Pro	Lys	Ile	Ser	Leu	Ser	Gly	Val	His	His	Phe	Ala	Arg	Ala	645	650	655	
Ala	Ser	Glu	Phe	Glu	Ser	Ser	Glu	Gly	Val	Phe	Leu	Phe	Pro	Glu	Leu	660	665	670	
Arg	Ile	Ile	Ser	Thr	Ile	Thr	Arg	Glu	Val	Glu	Pro	Glu	Gly	Asp	Gly	675	680	685	
Ala	Glu	Asp	Pro	Thr	Val	Gln	Glu	Ser	Leu	Val	Ser	Glu	Glu	Ile	Val	690	695	700	
His	Asp	Leu	Asp	Thr	Cys	Glu	Val	Thr	Val	Glu	Gly	Glu	Glu	Leu	Asn	705	710	715	720
His	Glu	Gln	Glu	Ser	Leu	Glu	Val	Asp	Met	Ala	Arg	Leu	Gln	Gln	Lys	725	730	735	
Gly	Ile	Glu	Val	Ser	Ser	Ser	Glu	Leu	Gly	Met	Thr	Phe	Thr	Gly	Val	740	745	750	
Asp	Thr	Met	Ala	Ser	Tyr	Glu	Glu	Val	Leu	His	Leu	Leu	Arg	Tyr	Arg	755	760	765	

Asn Trp His Ala Arg Ser Leu Leu Asp Arg Lys Phe Lys Leu Ile Cys
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 Ser Glu Leu Asn Gly Arg Tyr Ile Ser Asn Glu Phe Lys Val Glu Val
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 Asn Val Ile His Thr Ala Asn Pro Met Glu His Ala Asn His Met Ala
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 Ala Gln Pro Gln Phe Val His Pro Glu His Arg Ser Phe Val Asp Leu
 820 825 830
 Ser Gly His Asn Leu Ala Asn Pro His Pro Phe Ala Val Val Pro Ser
 835 840 845
 Thr Ala Thr Val Val Ile Val Val Cys Val Ser Phe Leu Val Phe Met
 850 855 860
 Ile Ile Leu Gly Val Phe Arg Ile Arg Ala Ala His Arg Arg Thr Met
 865 870 875 880
 Arg Asp Gln Asp Thr Gly Lys Glu Asn Glu Met Asp Trp Asp Asp Ser
 885 890 895
 Ala Leu Thr Ile Thr Val Asn Pro Met Glu Thr Tyr Glu Asp Gln His
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 Ser Ser Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Ser Glu Asp
 915 920 925
 Gly Glu Glu Glu Asp Asp Ile Thr Ser Ala Glu Ser Glu Ser Ser Glu
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 Gln Leu Glu Trp Asp Asp Ser Thr Leu Ser Tyr
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 35 40 45
 Val Met Glu Asn Asp Asn Thr Val Leu Leu Asn Pro Pro Leu Phe Ala
 50 55 60

Leu Asp Lys Asp Ala Pro Leu Arg Tyr Ala Gly Glu Ile Cys Gly Phe
 65 70 75 80
 Arg Leu His Gly Ser Gly Val Pro Phe Glu Ala Val Ile Leu Asp Lys
 85 90 95
 Ala Thr Gly Glu Gly Leu Ile Arg Ala Lys Glu Pro Val Asp Cys Glu
 100 105 110
 Ala Gln Lys Glu His Thr Phe Thr Ile Gln Ala Tyr Asp Cys Gly Glu
 115 120 125
 Gly Pro Asp Gly Ala Asn Thr Lys Lys Ser His Lys Ala Thr Val His
 130 135 140
 Val Arg Val Asn Asp Val Asn Glu Phe Ala Pro Val Phe Val Glu Arg
 145 150 155 160
 Leu Tyr Arg Ala Ala Val Thr Glu Gly Lys Leu Tyr Asp Arg Ile Leu
 165 170 175
 Arg Val Glu Ala Ile Asp Gly Asp Cys Ser Pro Gln Tyr Ser Gln Ile
 180 185 190
 Cys Tyr Tyr Glu Ile Leu Thr Pro Asn Thr Pro Phe Leu Ile Asp Asn
 195 200 205
 Asp Gly Asn Ile Glu Asn Thr Glu Lys Leu Gln Tyr Ser Gly Glu Arg
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 Leu Tyr Lys Phe Thr Val Thr Ala Tyr Asp Cys Gly Lys Lys Arg Ala
 225 230 235 240
 Ala Asp Asp Ala Glu Val Glu Ile Gln Val Lys Pro Thr Cys Lys Pro
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 Ser Trp Gln Gly Trp Asn Lys Arg Ile Glu Tyr Ala Pro Gly Ala Gly
 260 265 270
 Ser Leu Ala Leu Phe Pro Gly Ile Arg Leu Glu Thr Cys Asp Glu Pro
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 Leu Trp Asn Ile Gln Ala Thr Ile Glu Leu Gln Thr Ser His Val Ala
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 Lys Gly Cys Asp Arg Asp Asn Tyr Ser Glu Arg Ala Leu Arg Lys Leu
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 Cys Gly Ala Ala Thr Gly Glu Val Asp Leu Leu Pro Met Pro Gly Pro
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 Ser Leu Ile Tyr Trp Phe Asn Gly Thr Gln Ala Val Gln Val Pro Leu
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Gly Gly Pro Ser Gly Leu Gly Ser Gly Pro Gln Asp Ser Leu Ser Asp
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His Phe Thr Leu Ser Phe Trp Met Lys His Gly Val Thr Pro Asn Lys
 385 390 395 400

Gly Lys Lys Glu Glu Glu Thr Ile Val Cys Asn Thr Val Gln Asn Glu
 405 410 415

Asp Gly Phe Ser His Tyr Ser Leu Thr Val His Gly Cys Arg Ile Ala
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Phe Leu Tyr Trp Pro Leu Leu Glu Ser Ala Arg Pro Val Lys Phe Leu
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Trp Lys Leu Glu Gln Val Cys Asp Asp Glu Trp His His Tyr Ala Leu
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Asn Leu Glu Phe Pro Thr Val Thr Leu Tyr Thr Asp Gly Ile Ser Phe
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Glu Pro Ala Leu Met Ile Gly Ala Cys Trp Thr Glu Glu Lys Asn Lys
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Glu Lys Glu Lys Gly Asp Asn Ser Thr Asp Thr Thr Gln Gly Asp Pro
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Arg Ser Gly Arg Leu Glu Ser Arg Glu Val Ile Glu Cys Leu Tyr Ala
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Cys Arg Glu Gly Leu Asp Tyr Arg Asp Phe Glu Ser Leu Gly Lys Gly
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Met Lys Val His Val Asn Pro Ser Gln Ser Leu Leu Thr Leu Glu Gly
 580 585 590

Asp Asp Val Glu Thr Phe Asn His Ala Leu Gln His Val Ala Tyr Met
 595 600 605

Asn Thr Leu Arg Phe Ala Thr Pro Gly Val Arg Pro Leu Arg Leu Thr
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Thr Ala Val Lys Cys Phe Ser Glu Glu Ser Cys Val Ser Ile Pro Glu
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Val Glu Gly Tyr Val Val Val Leu Gln Pro Asp Ala Pro Gln Ile Leu
 645 650 655

Leu Ser Gly Thr Ala His Phe Ala Arg Pro Ala Val Asp Phe Glu Gly
 660 665 670

Thr Asn Gly Val Pro Leu Phe Pro Asp Leu Gln Ile Thr Cys Ser Ile
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 Ser His Gln Val Glu Ala Lys Lys Asp Glu Ser Trp Gln Gly Thr Val
 690 695 700
 Thr Asp Thr Arg Met Ser Asp Glu Ile Val His Asn Leu Asp Gly Cys
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 Glu Ile Ser Leu Val Gly Asp Asp Leu Asp Pro Glu Arg Glu Ser Leu
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 Leu Leu Asp Thr Thr Ser Leu Gln Gln Arg Gly Leu Glu Leu Thr Asn
 740 745 750
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 755 760 765
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 Leu Tyr Thr Arg Lys Phe Arg Leu Ser Cys Ser Glu Met Asn Gly Arg
 785 790 795 800
 Tyr Ser Ser Asn Glu Phe Ile Val Glu Val Asn Val Leu His Ser Met
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 His Arg Gly His Gln Pro Pro Pro Glu Met Ala Gly His Ser Leu Ala
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 Ser Ser His Arg Asn Ser Met Ile Pro Ser Ala Ala Thr Leu Ile Ile
 850 855 860
 Val Val Cys Val Gly Phe Leu Val Leu Met Val Val Leu Gly Leu Val
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 Gly Ala Ser Ser Asp Pro Lys Asp Pro Asp Leu Phe Trp Asp Asp Ser
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 Ala Leu Thr Ile Ile Val Asn Pro Met Glu Ser Tyr Gln Asn Arg Gln
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 Ser Cys Val Thr Gly Ala Val Gly Gly Gln Gln Glu Asp Glu Asp Ser
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 35 40 45
 His Gly Val Ile Thr Glu Asn Asn Asp Thr Val Ile Leu Asp Pro Pro
 50 55 60
 Leu Val Ala Leu Asp Lys Asp Ala Pro Val Pro Phe Ala Gly Glu Ile
 65 70 75 80
 Cys Ala Phe Lys Ile His Gly Gln Glu Leu Pro Phe Glu Ala Val Val
 85 90 95
 Leu Asn Lys Thr Ser Gly Glu Gly Arg Leu Arg Ala Lys Ser Pro Ile
 100 105 110
 Asp Cys Glu Leu Gln Lys Glu Tyr Thr Phe Ile Ile Gln Ala Tyr Asp
 115 120 125
 Cys Gly Ala Gly Pro His Glu Thr Ala Trp Lys Lys Ser His Lys Ala
 130 135 140
 Val Val His Ile Gln Val Lys Asp Val Asn Glu Phe Ala Pro Thr Phe
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 Lys Glu Pro Ala Tyr Lys Ala Val Val Thr Glu Gly Lys Ile Tyr Asp
 165 170 175
 Ser Ile Leu Gln Val Glu Ala Ile Asp Glu Asp Cys Ser Pro Gln Tyr
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 Ser Gln Ile Cys Asn Tyr Glu Ile Val Thr Thr Asp Val Pro Phe Ala
 195 200 205
 Ile Asp Arg Asn Gly Asn Ile Arg Asn Thr Glu Lys Leu Ser Tyr Asp
 210 215 220
 Lys Gln His Gln Tyr Glu Ile Leu Val Thr Ala Tyr Asp Cys Gly Gln
 225 230 235 240
 Lys Pro Ala Ala Gln Asp Thr Leu Val Gln Val Asp Val Lys Pro Val
 245 250 255
 Cys Lys Pro Gly Trp Gln Asp Trp Thr Lys Arg Ile Glu Tyr Gln Pro
 260 265 270

Gly Ser Gly Ser Met Pro Leu Phe Pro Ser Ile His Leu Glu Thr Cys
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 Asp Gly Ala Val Ser Ser Leu Gln Ile Val Thr Glu Leu Gln Thr Asn
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 Tyr Ile Gly Lys Gly Cys Asp Arg Glu Thr Tyr Ser Glu Lys Ser Leu
 305 310 315 320
 Gln Lys Leu Cys Gly Ala Ser Ser Gly Ile Ile Asp Leu Leu Pro Ser
 325 330 335
 Pro Ser Ala Ala Thr Asn Trp Thr Ala Gly Leu Leu Val Asp Ser Ser
 340 345 350
 Glu Met Ile Phe Lys Phe Asp Gly Arg Gln Gly Ala Lys Ile Pro Asp
 355 360 365
 Gly Ile Val Pro Lys Asn Leu Thr Asp Gln Phe Thr Ile Thr Met Trp
 370 375 380
 Met Lys His Gly Pro Ser Pro Gly Val Arg Ala Glu Lys Glu Thr Ile
 385 390 395 400
 Leu Cys Asn Ser Asp Lys Thr Glu Met Asn Arg His His Tyr Ala Leu
 405 410 415
 Tyr Val His Asn Cys Arg Leu Val Phe Leu Leu Arg Lys Asp Phe Asp
 420 425 430
 Gln Ala Asp Thr Phe Arg Pro Ala Glu Phe His Trp Lys Leu Asp Gln
 435 440 445
 Ile Cys Asp Lys Glu Trp His Tyr Tyr Val Ile Asn Val Glu Phe Pro
 450 455 460
 Val Val Thr Leu Tyr Met Asp Gly Ala Thr Tyr Glu Pro Tyr Leu Val
 465 470 475 480
 Thr Asn Asp Trp Pro Ile His Pro Ser His Ile Ala Met Gln Leu Thr
 485 490 495
 Val Gly Ala Cys Trp Gln Gly Gly Glu Val Thr Lys Pro Gln Phe Ala
 500 505 510
 Gln Phe Phe His Gly Ser Leu Ala Ser Leu Thr Ile Arg Pro Gly Lys
 515 520 525
 Met Glu Ser Gln Lys Val Ile Ser Cys Leu Gln Ala Cys Lys Glu Gly
 530 535 540
 Leu Asp Ile Asn Ser Leu Glu Ser Leu Gly Gln Gly Ile Lys Tyr His
 545 550 555 560
 Phe Asn Pro Ser Gln Ser Ile Leu Val Met Glu Gly Asp Asp Ile Gly
 565 570 575

Asn Ile Asn Arg Ala Leu Gln Lys Val Ser Tyr Ile Asn Ser Arg Gln
 580 585 590
 Phe Pro Thr Ala Gly Val Arg Arg Leu Lys Val Ser Ser Lys Val Gln
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 Cys Phe Gly Glu Asp Val Cys Ile Ser Ile Pro Glu Val Asp Ala Tyr
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 Val Met Val Leu Gln Ala Ile Glu Pro Arg Ile Thr Leu Arg Gly Thr
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 Asp His Phe Trp Arg Pro Ala Ala Gln Phe Glu Ser Ala Arg Gly Val
 645 650 655
 Thr Leu Phe Pro Asp Ile Lys Ile Val Ser Thr Phe Ala Lys Thr Glu
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 Ala Pro Gly Asp Val Lys Thr Thr Asp Pro Lys Ser Glu Val Leu Glu
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 Glu Met Leu His Asn Leu Asp Phe Cys Asp Ile Leu Val Ile Gly Gly
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 Tyr Gly Val Gly Ser Met Ser Arg Tyr Glu Gln Val Leu His His Ile
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 Arg Tyr Arg Asn Trp Arg Pro Ala Ser Leu Glu Ala Arg Arg Phe Arg
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 Ile Lys Cys Ser Glu Leu Asn Gly Arg Tyr Thr Ser Asn Glu Phe Asn
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 Leu Glu Val Ser Ile Leu His Glu Asp Gln Val Ser Asp Lys Glu His
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 Val Asn His Leu Ile Val Gln Pro Pro Phe Leu Gln Ser Val His His
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 Ala Thr Val Val Ile Ile Ile Ser Val Cys Met Leu Val Phe Val Val
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 Ala Met Gly Val Tyr Arg Val Arg Ile Ala His Gln His Phe Ile Gln
 850 855 860
 Glu Thr Glu Ala Ala Lys Glu Ser Glu Met Asp Trp Asp Asp Ser Ala
 865 870 875 880

Leu Thr Ile Thr Val Asn Pro Met Glu Lys His Glu Gly Pro Gly His
885 890 895

Gly Glu Asp Glu Thr Glu Gly Glu Glu Glu Glu Ala Glu Glu Glu
900 905 910

Met Ser Ser Ser Ser Gly Ser Asp Asp Ser Glu Glu Glu Glu Glu Glu
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Asn Lys Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala
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Thr Val Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr
50 55 60

Ser Ile His His Gly Val Val Gln Asn
65 70